



# ***THE B&O MODELER***

Volume 4, Number 6

November/December 2008



**HO SCALE B&O BARGE No. 407**  
**HELP BUILDING A PMSS I-5 CABOOSE**  
**MODELING AN M-26D OR E BOXCAR IN HO SCALE**

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**Editor – Bruce D. Griffin at [bruce\\_griffin@earthlink.net](mailto:bruce_griffin@earthlink.net)**  
**Associate Editor – Greg LaRocca at [larocca4@zoominternet.net](mailto:larocca4@zoominternet.net)**  
**Associate Editor – Benjamin Hom at [b.hom@att.net](mailto:b.hom@att.net)**  
**Did You See It? Editor – Ross Pollock at [info@borhs.org](mailto:info@borhs.org)**  
**Model Products News Editor – Editor Needed**  
**Modeling Committee Chair – Bill Barringer at [barbllsn@aol.com](mailto:barbllsn@aol.com)**

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**Cover Photos – Top, B&O Barge No. 407– John Teichmoeller photo. Bottom, M-26d – Bill Hanley photo.**

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## AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1600 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their

purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all of the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans are able to accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Several classes of [annual memberships](#) are available, Regular memberships are only \$35.00. If you would like to join, click [here](#) to fill out our [membership application](#), print a copy and mail it to:

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## FROM THE EDITOR

### Help Out a Friend or Make a New One

Here's an idea for modelers with limited means or time on their hands. How about helping out a friend? I have a few models on my shelf that I want to build, but I don't have a layout to run them on. In addition, I always want to buy more and build more. There are so many exciting new models out there for us, when do I stop buying. With limited resources, I can't afford them all and may never be able to use them on my future layout of the Old Main Line. I found some

great solutions that maybe some others can learn from and use variations. Let me know what you come up with. I have a friend building a spectacular B&O layout. He has an ambitious timeline and cannot build all the kits he has for the new empire. I volunteered to build some kits he needed right away, while he is working on track laying. Get this, he has given me Point of Rocks resin kit to build. New, this thing was worth hundreds more than I could afford and now it is worth even more. If I get to build my dream

layout, I won't even be able use one of these kits. It is also a challenging kit, which is something I enjoy. Later I'll get to build some more rare structure kits, along with all the resin freight cars I can handle. What an opportunity. It's a Win-Win.

Want another way to get a Win-Win, what about this idea? After building some resin kits and writing about them in this magazine, I have gained some positive press for my ability to create a good model from a great kit. I asked around to see if anyone wanted a Westerfield M-13 model for their layout. I

found someone who wanted one and asked them to contribute \$100 to the Historical Society in exchange for me building him an M-13. At one time I get to build a kit, review it for this magazine and benefit the Society. What a deal. After buying the kit, trucks, couplers, and paint I spent about \$60, but I get to see that money turn into almost twice that amount for the benefit of the preservation of B&O history. And I get to build a model that would not fit my layout era, just for fun. Oh yeah, fun, isn't that why we build models and play with trains? If it works for you, give it a try and let me know how it turns out.



John Okuley Photograph



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## MODEL PRODUCT NEWS

EDITOR NEEDED

### N Scale

**I-12 Caboose Kit, JnJ Trains, P.O. Box 683, Pleasantville, IA. 50225. <http://www.jnjtrains.com>**

These new kits are just hitting the market, though they are coming at a slow rate, not unusual for custom resin castings. The kit includes grab irons and etched steps, but will require paint, decals, trucks, couplers & a smoke stack. Retail price is \$23.50



Greg Jones Photograph

**Oakland, MD. B&O Station. Micron Art, 8400 Washita Drive, Austin, TX 78749. <http://www.micronart.com>**

Available in both N & Z scale. The kit contains 5 frets of etched brass, brass rods, finial, stained glass (acetate) and a baggage cart. See the website for photographs of the kit in construction.



Reynard Wellman Photograph



Reynard Wellman Photograph

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## UPDATES AND ERRATA



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## MODEL PRODUCT REVIEWS

EDITOR NEEDED

### HO Scale

#### American Model Builders Kit No. 8000 “Bump End Barge” B&O Barge No. 407

By John Teichmoeller *Model photography by the author.*

### Prototype

B&O’s wooden covered barge *No. 407* was built in 1930, measured 32’ wide by 100’ long, and had a deck load capacity of 300 tons (essentially 6 floating boxcars). She was still in service as of the “master roster diagram” of 1961 (T89211). No photos of her have surfaced, so we can’t be sure exactly what she looked like. However, the B&O did have barges with similar features to the American Model Builders No. 8000 kit, which, at 29’x98,’ is slightly smaller, so this model is conjectural. We do have prototype photos of two different views of Refrigerator Barge *No. 11*, similar to this one.

Until the early 1950s, the B&O’s covered barges were red with black hull and white lettering, and a painting and lettering diagram of this scheme exists (U81234). However, when the blue and grey scheme began to be applied to tugs, it was also applied to barges. Unfortunately, no lettering or painting diagram of the blue and gray scheme has surfaced. The wooden barges that appear in photographs from the early 1950s appear to bear at least two transitional lettering schemes from the final steel GMA barges that were also blue and gray, and it is one of these transitional lettering and painting schemes that has been applied to this model, with some license on the sizes of the smaller lettering.



### Model

Drawings for a vessel similar to this (the New York Central’s *Cohoes*) by Ron Parisi originally appeared in *Transfer* No. 22. Don Spiro was inspired to scratch build a barge based on these drawings but with a flat shearline for simplicity, and Don’s two-part article, along with drawings by Chuck Yungkurth, appeared in the 12/02 and 1/03 *Railroad Model Craftsman*. John Hitzeman of American

Model Builders, in turn, was sufficiently inspired by Don’s work to produce the laser kit as the first in an ever expanding line of marvelous “railroad navy” craft. Don, in turn, reviewed the kit in the 9/05 issue of *Railroad Model Craftsman*; in his review he offered his experience and tips on assembling the kit which are worth reading although I really didn’t

follow them and had no difficulties. We owe all these guys a lot of credit.

I built the AMB kit straight out of the box without modification. The instructions suggested adding wire side railings which I did, along with deck house cleats. The parts in this kit are laser cut with extreme precision, and they assemble flawlessly; this kit is a true treat to build. The end ladders are a miracle. (The only anxiety I had during the kit construction was what and how I was going to paint and letter it. Prepainting parts prior to assembly certainly would have made things easier.) Do read and follow the instructions carefully. However, contrary to the instructions, I did not airbrush the parts prior to assembly but instead brush painted everything with Floquil after assembly. I had no problem with warping. I may add some other details in the future like coils of mooring line, lines across door openings, lashings for the roof hatches and a clothesline. By the way, I find that two strands of twisted, very-fine magnet wire, painted tan, makes much more convincing line than fine thread.

Lettering was a challenge. I prepared some in Microsoft Word using a font called "Josie," with the notion of using Testors clear decal paper in an inkjet printer. Unfortunately, with light colors like yellow, inkjet decals using the clear paper come out

translucent--unsatisfactory. I ordered 1/16" thick Microscale yellow stripes from my hobby shop but they didn't arrive in time—actually they never have arrived—but I achieved marginally acceptable results using inkjet printer stripes with white decal paper. I was prepared to hand-letter the large "B&O" and do the other letters using the white decal paper, trimmed to the yellow. Fortunately, by coincidence I encountered a helpful hobby shop clerk who had an ALPS printer and computer graphics skills, and he was kind enough to make a sheet for the lettering. He even created a proper ampersand based on the prototype photo, as the "Josie" ampersand is not correct. The blue outline for the large letters and numbers ended up a little light, and the yellow is probably a little light, too, but with weathering I think they will be acceptable. I will be happy to share a full-size scan of this artwork with anyone interested. As for colors, the blue paint used on the model was Floquil Dark Blue, the gray was Floquil Gray Primer, and the roof gray was Polly Scale USN Light Gray. Don Spiro used BAR Gray; Floquil no longer offers this color, but it is lighter and more appropriate. If I do another barge, I will seek out a much lighter gray. The hull was painted with washes of grimy black, drybrushed with gray and sanded in some places, with a final stain in some places of India ink. The yellow stripe on the hull was Floquil Railbox Yellow.





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## HELP BUILDING A PMSS I-5 CABOOSE

BY: BRUCE BATTLES

PHOTOS BY AUTHORS UNLESS OTHERWISE SPECIFIED.



### Introduction

This article will cover assembly of the HO scale Pacific Mountain Scale Shops Baltimore & Ohio I-5 caboose kit. This kit is made of epoxy resin, and is very well built, has lots of detail parts, and is very accurate. If you see construction through to the end, you will have built a nice kit that you can be proud of!

### Prototype History (by Greg LaRocca)

C-1900, the first I-5 caboose, was outshopped by the B&O in January, 1924, at the Mt. Clare shops. The basic carbody dimensions were the same as the class I-1 caboose, but with a bigger cupola, which had slanted, rather than straight sides. Other improvements were that the carbody framing and ends were steel, rather than wood, and that the I-5 had full-width end platforms and vertical steps. Many I-1, I-1a, and I-3 cabooses received identical platforms and steps in subsequent years. The remaining I-5 cabooses, C1901 to C2299, were

constructed at the Washington, IN car shops between 1925 and 1929 in four groups of 100 each. The I-5 was the second largest class of caboose on the B&O, exceeded only by class K-1. When new, I-5 cabooses had a large toolbox underneath, between the trucks. These toolboxes were removed beginning in 1930, as the cars went through the shops for servicing. It appears that the I-5 cabooses were built with arch bar trucks; these were changed to Andrews or Bettendorf (both with leaf springs) over the years. Beginning in 1940, the B&O began to modify I-5's for heavy helper service, redesignating the modified cars as I-5c or I-5d (I-5a, I-5b, and I-5ba were I-5's rebuilt as wagontop, bay-window cabooses). I-5c cabooses had the truck centers increased from 15 to 19 feet, resulting in a more stable caboose; I-5d had their truck centers increased likewise, with concrete and steel scrap added to the floors to bring the car's weight up to about 31 tons for further increased stability.





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## Modeling

The purpose of this article is to help prospective builders get through a couple of tough spots, and maybe save them some time. In my humble opinion, the weakest part of this kit is the assembly instructions, and in this article I will show what I did to get past a couple places in the instructions that were either vague, confusing, or unnecessarily difficult.

Determine what era you'll be building your model for, before you install things like the brake system, the grab irons, the toolbox, and other details that were installed or removed as the years went by. For example, this caboose, in this paint scheme, should have a newer brake system, and notice that the toolbox is not there.



The B&O Modeler

When you are ready to begin, you won't need this article until you have reached Step 6. When you have finished that step, then come back here and start reading.

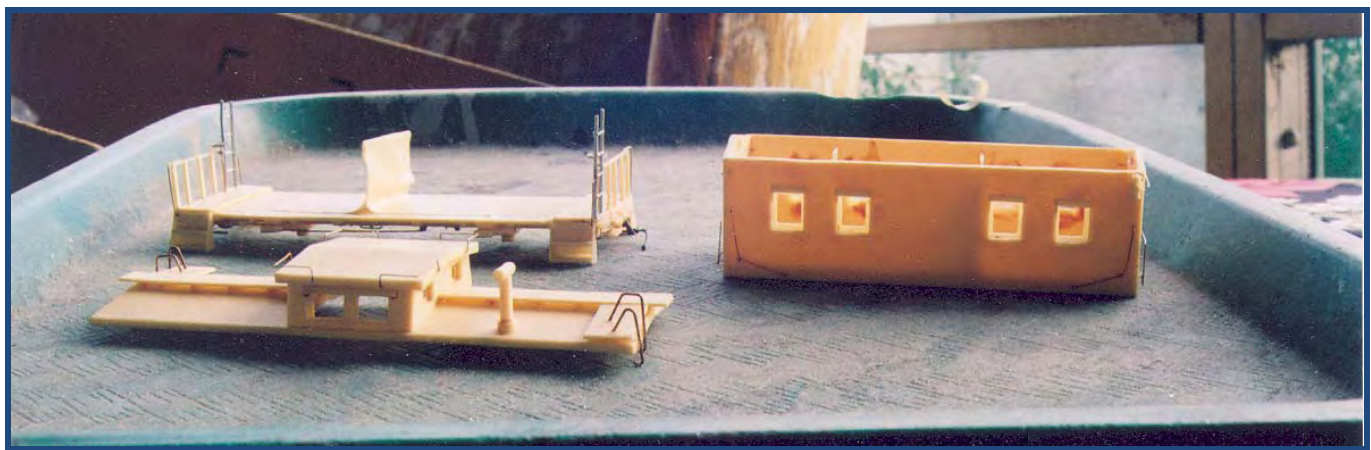
Step 7 asks you to drill the holes for all the grab irons, railings, and ladder extensions. It then asks you to bend to shape all the grab irons, railings, and such. This is a big step, and involves a lot of drilling! I hope you have a nice pin vise, and I hope you take your time here! If you're modeling these cars as they looked in later years, skip the hole near the lower corners of the sides, next to the step. I-5 cabooses in later years had the curved grab irons that were one continuous curve, like a quarter circle, and were only fastened at each end. The ladder extensions need to be bent very carefully, since they're very visible, and any mistakes here will show. As you make these parts, put them in some small container so they won't get lost.

A template to help you bend the railings and grab irons is included with the kit. I had only limited success with it, and I ended up bending each piece by fitting it in place. If you can use the template and get it to work, go for it! It didn't work for me.

Steps 8 and 9 tell you how to make the end ladders and railings. To build the ladders, and install the

rungs, they ask you to drill holes in a ladder casting that is about 1 millimeter wide and .015" thick. I couldn't believe this! I made an honest effort to drill the necessary holes, but even with the smallest bit I could fit into my pin vise, the bit went through the side of the casting rather than drilling a clean hole.

After about four holes, I thought "There has to be an easier way to do this!". And then I remembered that I had just assembled a Red Caboose PFE reefer, and those nice people had graciously included an extra set of ladders in the kit. They're the ones that go on each side, at the end of the car. They were very nice plastic castings, just the right width, and the spacing on the rungs was perfect.



When you have solved the problem of the ladders, you can do Steps 10 through 13. When you get to Step 14, glue the Kadee brackets to the underframe of the car – do not glue the air hoses to the brackets! I did this, and about the second time I turned the floor right side up, its entire weight was on that tiny little air hose, and it broke off. You can glue the air hoses in place after you have the couplers installed and the car is assembled and sitting on its trucks.

Now go ahead and do Steps 15, 16 and the second part of Step 17. Install the window frames, but don't paint them first. This really isn't necessary – you can paint them after they're installed. I glued the window frames on with Walthers' "Goo", and after they were in place and I could see that they were straight, I put a smear of ACC on each one, just to be sure. Painting them wasn't difficult – the only ones that were tricky were the end windows on the cupola, and that's only because they're right under the eaves of the cupola roof. (I have some serious problems with parts that you paint first and then install – I rarely do this, since more often than not, you scratch the paint installing them, and trying to glue parts in place with paint on

They had four mounting lugs, two at the top and two at the bottom. I cut those off flush with a pair of fingernail clippers, and cut off one set of the vertical pieces from the bottom of the ladder, so it had a rung across the bottom. Then I put the ladder against where I'd be mounting it, and measured about where the top would be, with the roof in place. I made a preliminary cut, and when I finally mounted the ladders, I made a final cut, so the ladder just missed the inside of the roof. It's not glued to the inside of the roof, so you can remove the roof without disturbing it. The ladder extensions just miss the ladder. They're glued to the end of the roof, and also on top.

them is difficult – glue doesn't stick to paint!)

Now skip ahead to Step 24, where you install all the grab irons and the ladders. This is the most time-consuming and difficult part of the whole kit, and once you get through it, it's pretty much downhill from here! It took me about two hours to do this. When I installed the grab irons, I glued them on with ACC, and I put it on from the inside, using a toothpick. The only place where I couldn't do this was the two grabs on the end sills. Don't be stingy with the glue – it makes a solid joint that won't come undone later.

At this time, I installed the end railings and the ladders to the floor, using ACC. I glued the railings in place, lining them up with the platform floor, and the directions show this pretty clearly. Then I glued the ladders next to them. Remember, I cut the ladders in such a way that they had a smooth rung on the bottom, which gave the glue something to grip. Glue the ladders, and the brake wheel staff, to the railings. You'll have to hold them until they dry, and make sure that they're straight, as viewed from the sides.



Next, make sure that the tops of the ladders just miss the underside of the roof when it is put in place. Again, if they're too long, you can cut them off with those aforementioned nail clippers. When all this is dry, you should probably install the grab irons on the ends of the railings. Bend them carefully, since they are highly visible, and they help hold the end railings straight!

One place where I had difficulty was installing the ladder extensions. These are the railings that go up above the roof, where the ladder meets the roof. They have to line up with the ladders, as viewed from the end of the car. I put the roof on the car and taped it in place. Then I very carefully measured where the ladders would meet the roof, and made a pencil mark there. Then, lining up the roof railing piece to the ladder again, I made a mark in the roof walk showing where to drill the holes for the railings. Drill the holes at an angle – not straight down. If you look at the template for the roof railings, you'll see what I mean. Don't spare the glue here – those pieces have to be glued in the holes and also to the end of the roof.

Now you can go back to Steps 18 through 21. In Step 19, the directions say to assemble the trucks. This is not difficult, but I had trouble with the brake shoes – their installation made no sense to me, nor did the directions on how to put them in. I ended up calling the manufacturer for help, which they cheerfully gave me! Unfortunately, they ask you to glue the brake shoes on after the trucks are installed, which means that you can't remove the trucks without removing the brake shoes first, since the brake shoes go over the screw that holds the trucks on! As luck would have it, Harry Meem, who I built the car for, decided

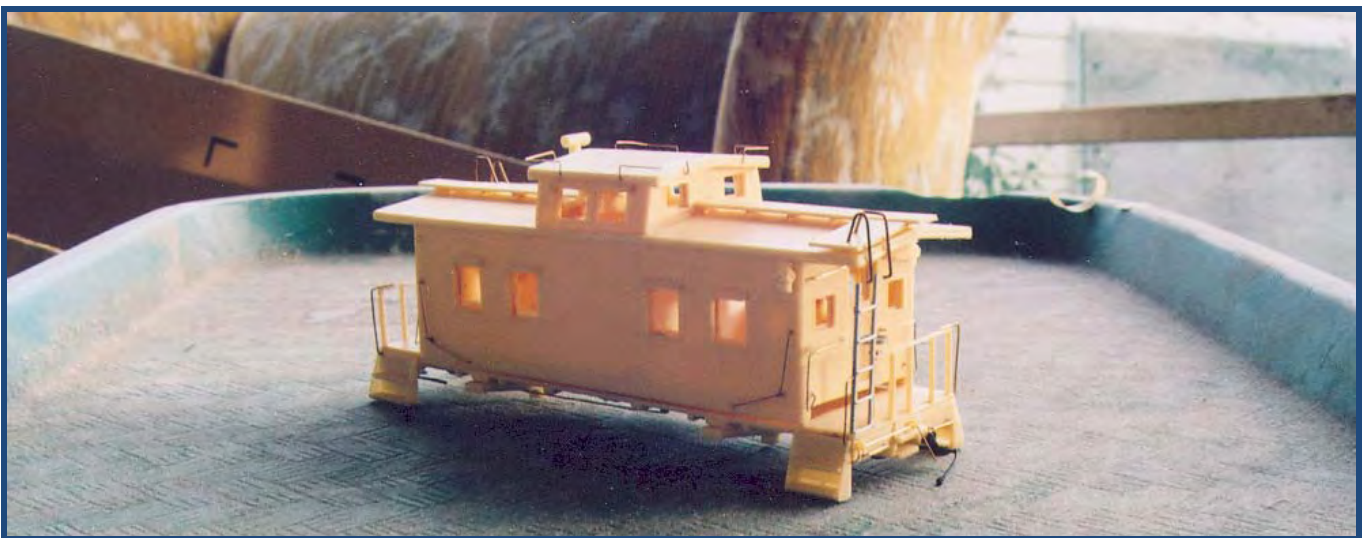
he wanted to make the car look like it did in 1955, and I ended up installing a pair of Bethlehem Car Works Bettendorf trucks on the car. I never used the original archbar trucks - I returned them, unpainted, with the completed car.

The kit does not include coupler cut levers, and that's a nice bit of detail. I used those little posts that come on a Tichy sprue with the kit, that are a light orange color. I drilled two holes for each one, and bent a piece of wire to the desired shape. I put the posts on each piece of wire, and then glued them in place. Make sure that you install them so they don't interfere with the swing of the couplers.

I added some bulkheads inside the car, since I noticed that you could see all the way through this caboose, and out the other end, through all three windows in the ends. That didn't happen with the real ones! There are three bulkheads, and I used some pieces of .015" plastic that I cut to about an inch high by 3/8" wide. They leave an aisle up the middle – they're glued to the floor and to a wall. You can see out the other end OK, but only through the windows in the doors.

Step 21 is a good time to install the marker lamps. Don't install the lenses yet.

In Step 22, the instructions tell you to paint the model, and then in Step 24, they say to install the grab irons. I wouldn't dream of doing it this way. After I had the grabs and the ladders and railings installed, and everything else was done, that's when I painted it with primer and then painted the car with its final color.





B&O RR Historical Society Collection

I painted the car Floquil "Signal Red", although the instructions say to use "Freight Car Brown" – apparently that's the color the B & O used on these cabooses when they were new. The window frames are "Southern Railway Green", the grab irons and handrails are "Reefer Yellow", and everything underneath is "Grimy Black". To paint the grab irons yellow (the car was painted to look like they did in the 10 years following World War II), I slid a small piece of paper under each one, and painted it carefully with a brush. If you're painting the car to look like they did when new, then the grabs were the same color as the rest of the car. The interior walls and bulkheads are Floquil "Light Green", and the floor is "Primer".

There was very little masking done when I painted this caboose. You'll notice that the platform floors, the steps, and the ends of the car are red. I painted the floor first, in black, and when it dried, I masked off the bottom of the floor only. Then I put red in the

air brush and painted the steps, platform floors, and the ends of the floor, and then I painted the body and the roof. . From here on, I didn't need the air brush. I painted the window frames with a brush, and after that I tackled the grab irons and railings. When all that was dry, I gave the body a coat of Testor's "Glosscote", and put on the decals. This was as good a time as any to put in the marker light lenses, the trucks, and the couplers. When the decals were dry, I installed the window glazing and "buttoned it up". I glued the floor and the roof on with "Goo". I think the very last thing I did was to glue in the air hoses.

Bob Hubler's book on B & O cabooses is an invaluable aid in building and painting this car, and I would recommend it. It has color views of B & O cabooses in every paint scheme they ever had, and this was a big help. In addition, it has a floor plan of a caboose, and this helped me put the bulkheads in the right places.

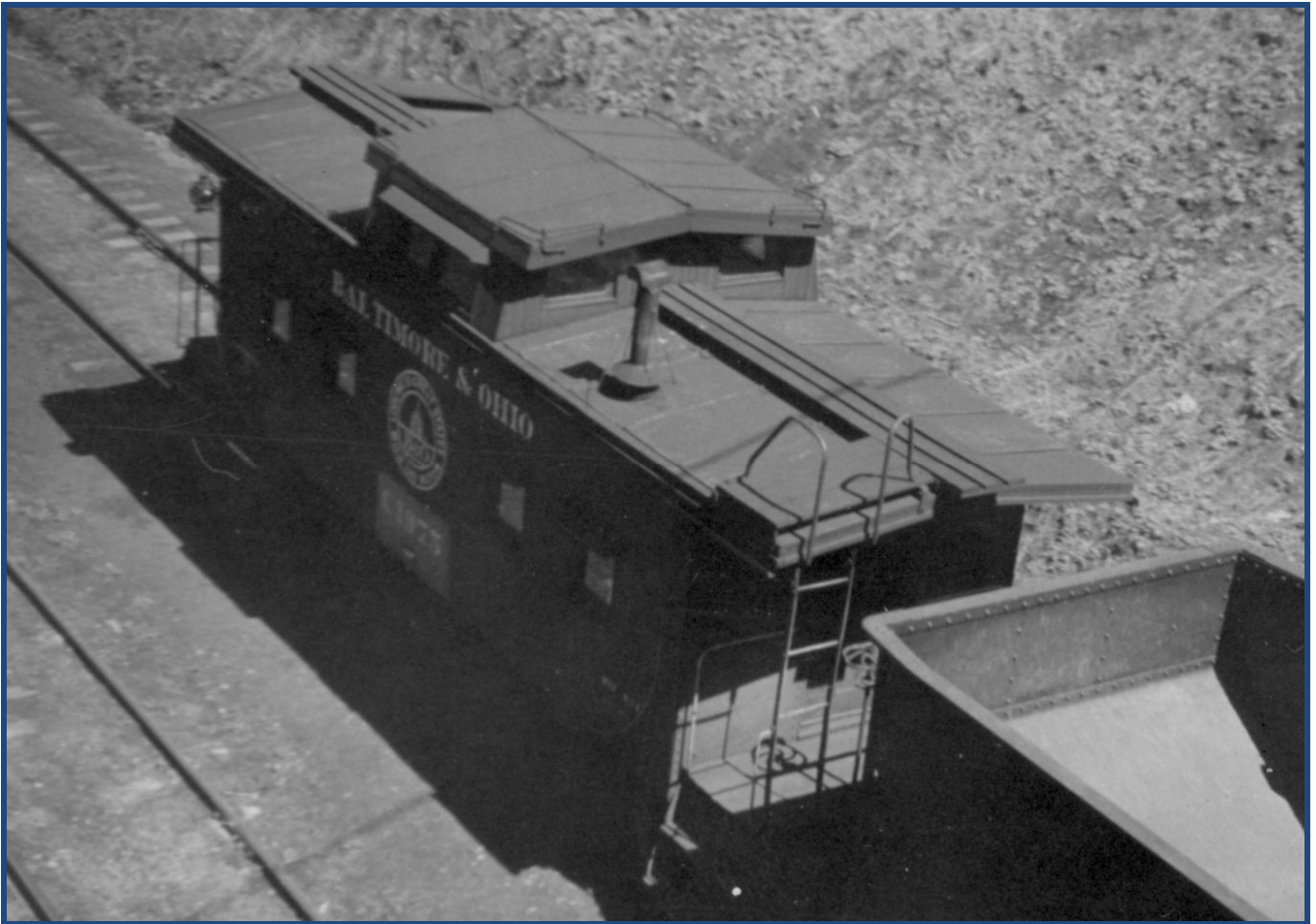
*Editor's Note: Any errors on the final paint job reflect the desire of the car's owner to have certain colors.*

## References

Hubler, Robert. *Cabooses of the Baltimore & Ohio Railroad*. 1994. The Baltimore and Ohio Railroad Historical Society, Baltimore, MD.



Jones, Dwight. *Baltimore & Ohio Cabooses. Vol. 1--Photos and Diagrams.* 1998. TLC Publishing, Inc, Lynchburg, VA.



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# MODELING AN M-26D OR E BOXCAR IN HO SCALE

BY WILLIAM HANLEY

PHOTOS BY AUTHOR UNLESS OTHERWISE SPECIFIED.



*"Dedicated to the memory of Edward O. Malone, Jr. - a friend and fellow B&O Modeler"*

## The Prototype

With 13,000 cars on the roster, the M-26 series was the single largest class of boxcars on the B&O during the steam era. Construction began in 1925 and concluded in 1931 with cars being built by a variety of companies. Half of the M-26 series (sub classes d & e), 6,500 cars, were delivered with the Duryea underframes. All of the d and e subclass cars were built by Baltimore Car and Foundry between 1928 and 1931. Numbers 272500 through 273499 were built in 1928, numbers 273500 through 273749 were built in 1929, numbers 272750 through 274499 were built in 1928, numbers 274500 through 276499 were built in 1929, numbers 276500 through 277999 were built in 1930, and numbers 278000 through 278999 were built in 1931. They were all originally equipped with Ajax "power" handbrakes and KD brake systems.

In 1931, ten of the M-26d cars were converted to M-26f at Mt. Clare with the addition of end vents, internal bulkheads, and a leftward opening ventilated door. Their capacity was reduced to 40 tons and 2,635 cubic feet and they were numbered 289990 to

289999. They were converted back to M-26d in 1936 and 1937. The M-26 boxcars persisted on the B&O into the 1960's in revenue service and many much longer in Company service.

## Prelude

Sometimes, our first impression is not necessarily the correct one. Such was the case with the Speedwitch Media kit KC102XA – B&O M26D/E Conversion Kit. The kit includes a Red Caboose AAR kit, resin parts for the Duryea underframe, instructions, and a great set of decals. I had built several of their earlier kits and was impressed with the thoroughness of instructions and the modeling skills that the instructions had introduced to me. Suffice to say, I was disappointed with the instructions for this kit. While the instructions were complete as far as the Duryea underframe was concerned, not much mention was made about the remainder of the carbody. It was only when the April, 2007 issue of *Railroad Model Craftsman* arrived and I found the article about this series of cars written by Ted Culotta (pp 90 – 98) that the remaining instructions came into



focus. Armed with this additional information, construction was resumed and the kit was completed. I was very pleased with the results, in other words – I was wrong, and I even learned some new techniques along the way! Before we begin though, let me caution you that the path will not be easy, but the results will be well worth the effort. If you are game, let's begin.

### Preparation

We will begin by examining the contents of the kit and becoming familiar with the parts. Equally important is to become familiar with the kit's instructions along with the RMC article. First, we'll prepare the underframe – separate the body bolsters from the frame. Keep the bolsters and discard the remaining frame parts. Set the bolsters aside



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Next, we'll remove ALL cast-on detail from the underbody between the body bolster locations. I did this with a combination of a sprue cutter and a #17 X-Acto chisel blade. After you are satisfied with the clean up, fill in the molded holes with styrene rods and sand smooth. Now would be a good time to fill in the holes in the carbody with 0.025" styrene rod but leave the holes for the bracket grab irons and door tracks open. Finally, locate the resin Duryea Underframe parts and prepare them by removing them from the sheet, followed by trimming away the flash. That would include the center sill halves (2), torsion arms (4), cross bearers (4), cover plates with

rivet detail (2), long angles (2), and medium (approx 3/8") length angles (4). The short (3/16") length angles will be used later. You'll also see six small rectangles of which four will be used on top of the draft gear box (this will be covered later) and three parts for the Tatum brake step (again – later). On this same sheet of resin parts, you'll find eight short (1/8") channels which will be used between the center sills. Also on this sheet, there are two long channels which will NOT be used. Finally, there are two square plates which will be used for the XLT slack adjuster and will be covered later. Set them aside.



### Construction - The Underframe

The first step will be to glue the body bolsters to the floor. The prototype truck centers are 31' 3". Its location is determined by the rivet detail along the bottom edge of the side sill. Once the glue has dried, drill and tap the bolsters for a 2-56 screw. Do not use the self-tapping screws provided. Next, I applied two

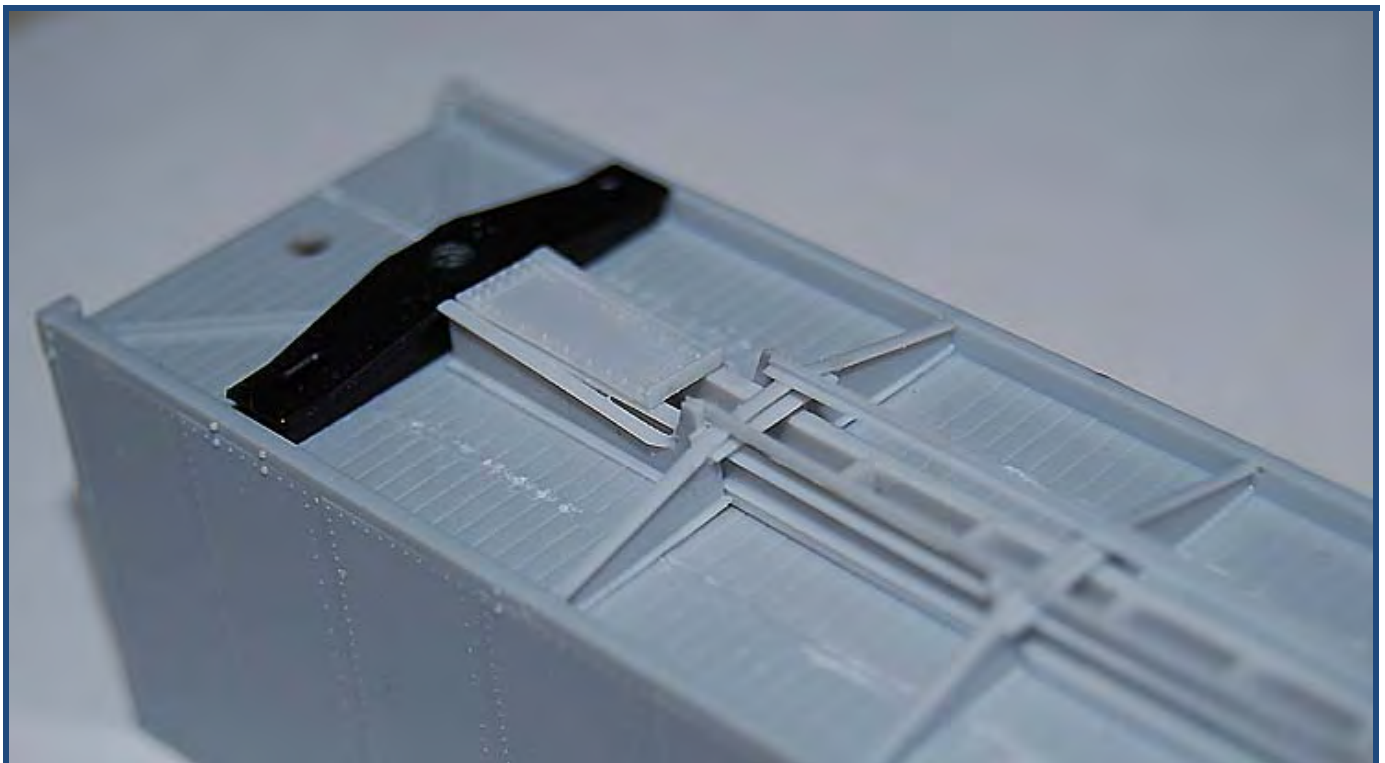
oz. of weight to the floor inside the carbody. I used the A-Line self-adhesive weights with one oz. above each body bolster. Next, trim to length the two center sill halves. The spacing between the halves is determined by the width of the cover plate. When you are satisfied with the center sills location, attach them to the floor with ACC. You can also glue the

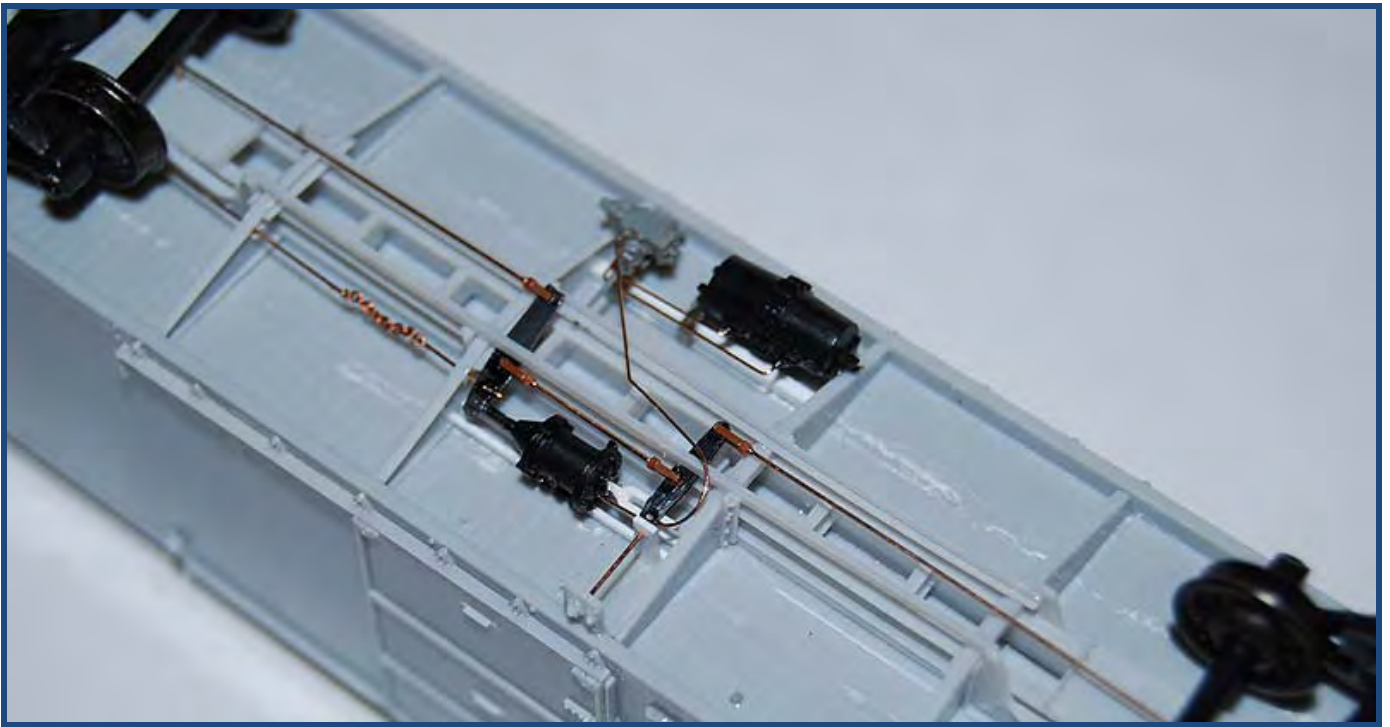




cover plates to the center sill with the rivet strip against the body bolster. The torsion arms can now be added with the “peaked” end toward the center of the car, flange detail facing outward. The four cross bearers are next – all will have the flanges facing the center of the carbody. The outer two cross bearers are flush with the torsion arms while the inner two are centered with the doorframe – again with the flanges facing the center. Add seven short channels (eight are provided) between the center sill with the center channel’s flanges facing what will be the “B” end and the remaining channels all facing the end of the carbody (that is, three in each direction). Next, locate the short angles – eight are provided but we’ll only need four. These are placed vertically on the two inside cross bearers. They are placed on the

smooth side of the cross bearer against the center sill – rivet detail side against the cross bearer. They should extend slightly above the cross bearer. Next, the medium angles – there are four included and we’ll use all four. These are located on the inside of each of the four cross bearers with the rivet detail against the cross bearer and the smooth side facing the top of the cross bearer flange. Refer to the photos. Now for the two long angles – they are located on the inside of the four protrusions between the outermost cross bearers. Further, one leg of the angle rests on the cross bearer and the other abuts the four protrusions. In other words, the two long angles form a “U”. This completes the structural part of the underbody.





### Construction - The Brake System

The instruction sheets are pretty complete and well written so I won't duplicate what Ted (Speedwitch Media) has already done. The one item worth mentioning is the use of Tichy turnbuckles. They were used to attach the brake rods to the levers. The

effect is well worth the effort. In short, the turnbuckles are cut in half using sprue cutters, 0.0125" wire is inserted, and the turnbuckle / wire assembly is slid onto the brake levers. Secure the styrene to wire with ACC and the styrene to styrene with styrene solvent.

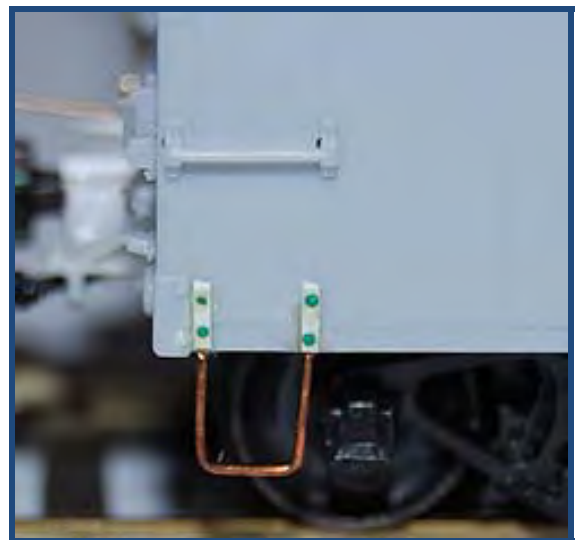






### Construction - The Draft Gear

I had several sets of long draft gear boxes left over from some Sunshine Models kits, of which two were used on this model. They were used because their length was correct for this application. First, remove some of the molded styrene diagonal bracing to allow the draft gearbox to rest flat on the floor. Test fit to insure that enough styrene has been trimmed. After cleaning the resin flash from the inside of the screw holes, glue the box (but not the cover plate) to the floor. The box should extend about 9" from the end. Drill and tap for a 2-56 screw. You can now install the couplers (Kadee #158), cover plates, and screws. You will find six small rectangular resin plates –we'll use four of them, two on each end. They are attached to the ends, about 3" in from the side of the draft gearbox with the rivet detail on top. Finally, add 2" x 2" styrene strips from the center of the plate to the front edge of the draft gearbox.



### Construction - Body Detailing

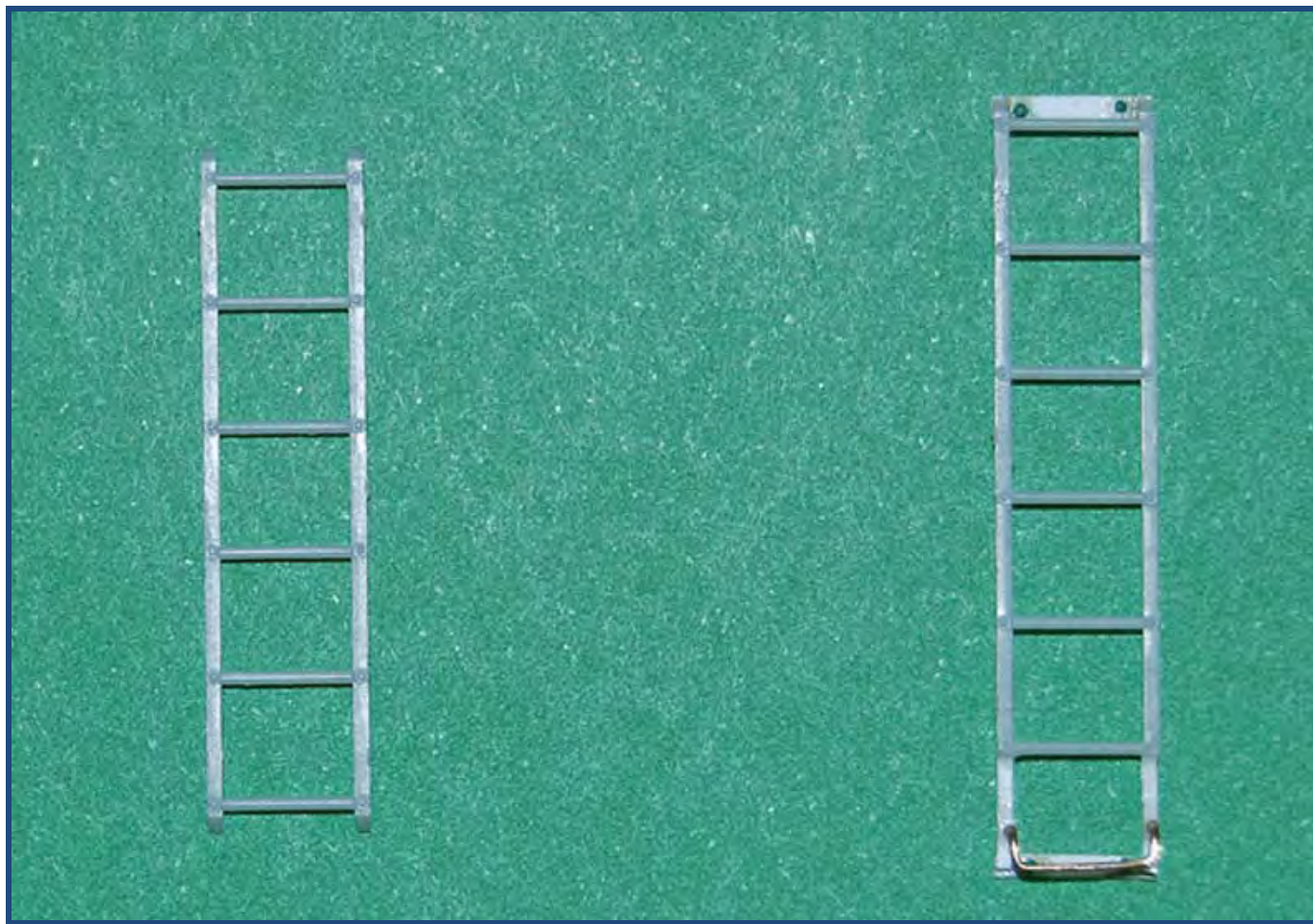
**Stirrup Steps** – Rather than use the styrene steps provided in the Red Caboose kit, I opted for A-Line Type "A" steps. Drill 2 #75 holes into the bottom of the side sill for each of the steps, then insert the steps into the holes, securing the steps with ACC. Now, we'll represent the straps that hold the steps to the carbody. For these straps, we can use either 1" x 2" styrene strip or 0.005 styrene sheet strips cut to a width of 2". Cut to a length of 5". You'll need eight of these strips. Glue to the carbody, in line with the

legs of the steps. Finally, add rivet detail to the eight straps, two rivets per strap. This detail is created by harvesting rivets from an old carbody and attaching them to the straps with lacquer thinner (it does not dry as fast as glue). Refer to photos for the locations.

**Doors** – The kit provides two types of doors, choose the type you wish to use and glue them to the carbody. The next step is to add the door tracks. Before adding them, first remove the large door stops located at the right end of the track. Finally, add the doorstops.

**Roof** – I chose not to use the pins in the roof walk so they were removed. I also chose not to use the styrene corner grab iron. First glue the roof to the

carbody. Prepare the roof walk by drilling #79 holes for the corner grabs. Now we'll start building up the 3" x 3" angle that is part of the end support. Begin by adding 1" x 2" strip to the underside of the end and trim flush. Now add 1" x 3" perpendicular to the roof walk and trim. Next, the roof walk can be added taking care to get it centered in all aspects. I formed the corner grabs from 0.0125" wire with Detail Associates eyebolts at the corner. Cut to length, four lengths of 1" x 2" strip to form the diagonal supports. These go from the bottom of the 3" x 3" angle to the top of the carbody. As a final detail, cut four pieces of 1" x 2" to a length of 2". These will be glued to the end where the diagonal meets the end. Add one rivet to the center of each of the 2" x 2" pads.

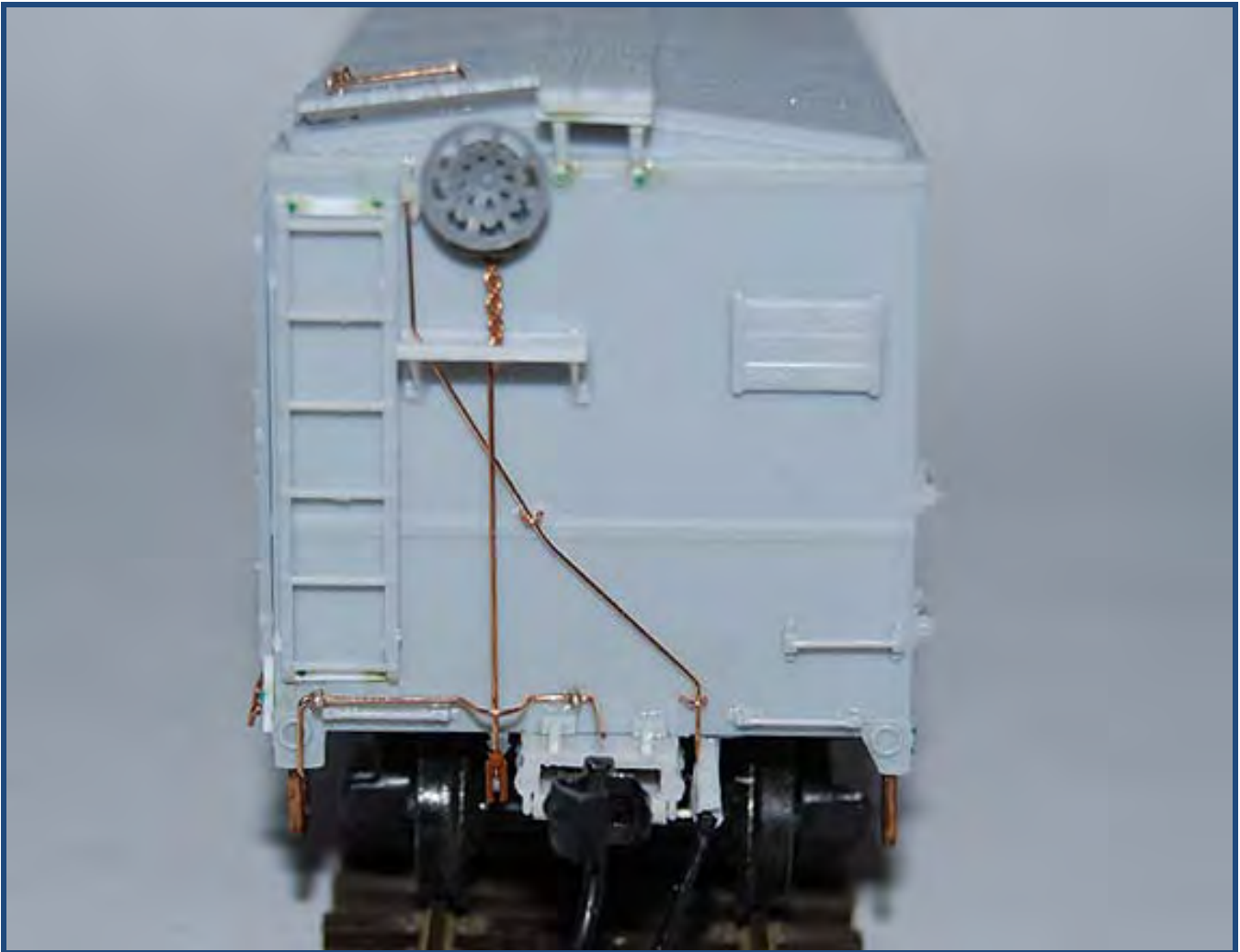


**Ladders** – they presented me with the greatest challenge! You will need two ladders with six rungs and two with seven rungs (actually six rungs and one drop grab). What I came up with captured the feel of the Tatum ladder; it isn't perfect – what is? The first step is to cut the stiles flush with the bottom (sixth) rung. Then glue a 15" length of 2" x 2" strip styrene

to the bottom of each stile. Set aside and allow to completely dry. Next, drill #79 holes 10" below the bottom rung and insert an 18" drop grab (trim the legs first). Add a rivet above each leg of the drop grab. Now we will mount the ladders – cut eight strips of 1" x 3" to a length of 20". These strips will go between the ladder and the carbody. Add one to

the top and bottom of each ladder. Attach the ladders to the sides and ends. Finally, add two rivets to each mounting strap, with one just on the inside of each stile.

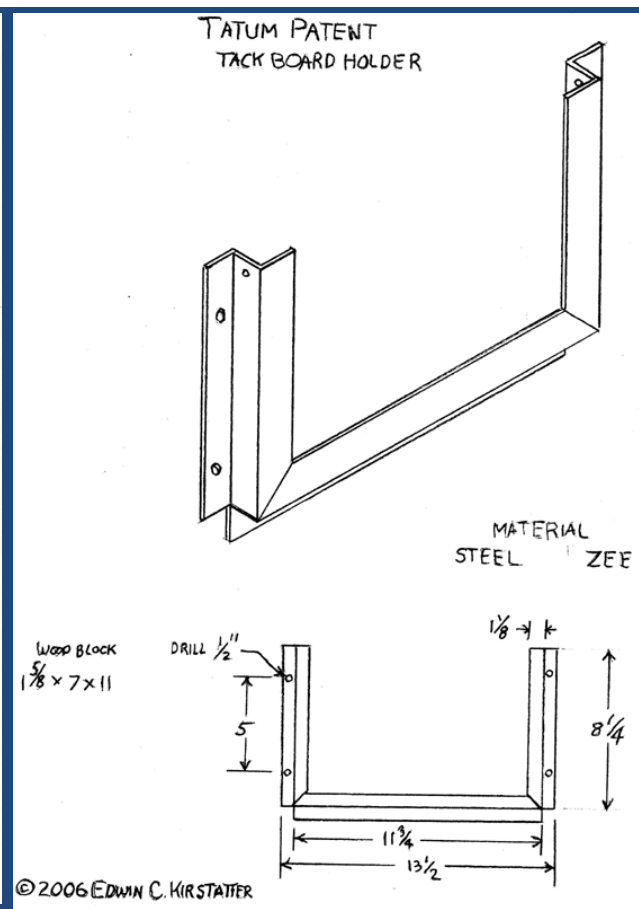
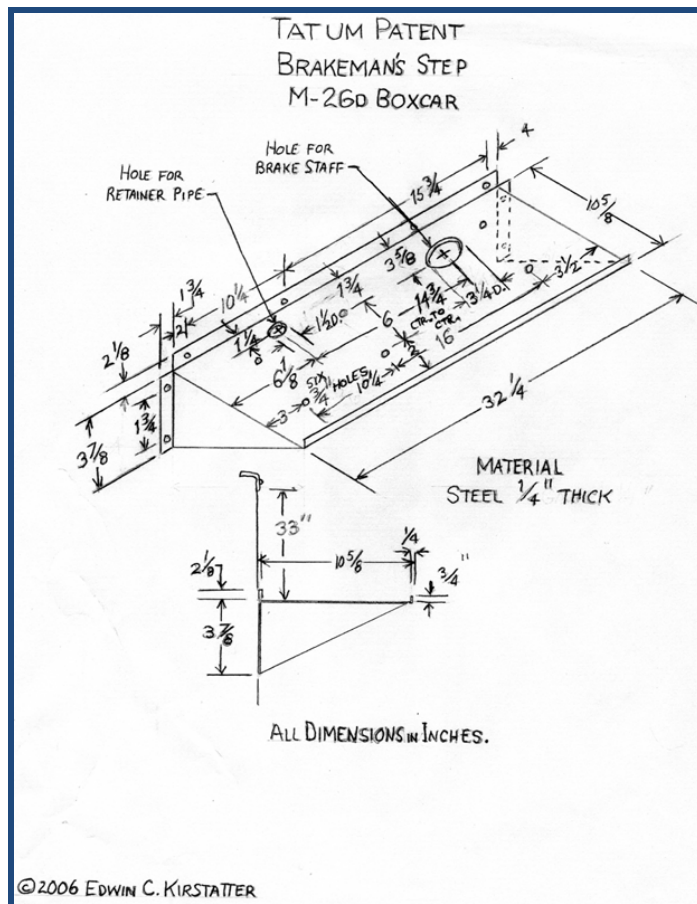
**Grab irons** – I used the styrene grab irons provided with the Red Caboose kit. Finally, something easy!



**“B” end detailing** – we’ll begin by adding the retainer valve. I used a resin casting left over from a Sunshine Models kit. It gets placed below the rivet strip at the top of the carbody and just to the right of the ladder. The retainer line is formed from 0.010” wire. Refer to photos for the routing of this pipe. Do not attach it at this time. Our attention now turns to the Tatum Patent brakemen’s step. Before attaching the supports to the step, drill a #78 hole in the step for the retainer pipe. Now you can add the supports and glue the step assembly to the carbody 33” below the band of rivets on the top of the carbody. Next, thread the retainer pipe through the step and secure with ACC. Note the two brackets that hold the retainer pipe to the carbody. These are represented by bending 0.010” wire to the shape of a “u”. Drill a

#79 hole on each side of the retainer pipe and secure with ACC. For the Ajax brake wheel, I used the Tichy AB brake system wheel, housing, and fulcrum. The rod is 0.0125” wire and the chain is Builders in Scale 40 links per inch. By trial and error, establish a point where the chain will end inside the brake housing. Attach the rod and chain assembly to the carbody by forming a small “L” with 0.010” wire and drill a #79 hole just inside of where the housing will be located. We are going to hang this chain/rod assembly by this “L”. After you are satisfied with the position, secure the chain with ACC. Add the fulcrum – you may need to trim the 0.0125” rod. Use a Tichy turnbuckle to connect the brake rod to the fulcrum. Now, you can add the brake wheel and housing.





Edwin Kirstatter drawings used with permission.

**Final details** – we can add the routing boards and tack boards. I used the four large Red Caboose boards. I attempted to fabricate the Tatum small board from several layers of 0.005" sheet styrene. When that failed to produce the desired results, I used the small boards provided with the Red Caboose kit. After that, I fabricated the cut levers from 0.0125" wire and secured them to the car using Detail Associates lift rings. Note how the cut lever wraps around the brake rod. Finally, I added the air hoses. For brackets, I used some Sunshine Models brackets left over from previously built kits. I then drilled the brackets with #65 bit. Save the air hoses (Kadee) until after the car has been painted.

### Painting

My personal preference for B&O boxcars is Scalecoat II "Oxide Red". Follow the manufacturer's directions and allow at least two days to thoroughly dry. I then painted the underbody with Scalecoat II "Loco Black". Again, allow to dry. Follow up by applying the decals (add chalk marks if desired), and

weather to suit. You can now add the air hoses and trucks (I used the Red Caboose trucks with Kadee 33" wheels).

### Epilog

There were two things that I learned in building this kit and writing this article:

1. First impressions of a kit are not always the last ones. The kit was exactly what it said it was – a Duryea conversion. It forced me to do a little research. Thank you to everyone involved in bringing this kit to market.
2. If you are going to undertake a project of this type, be it a locomotive, freight or passenger car, or perhaps even a structure – pull out your camera and take some progress shots. I did not, and because of that, I had to build a second kit just to get the photos. And, if you have the photos, share your experience by writing an article. (*Ed. Thanks for building the second one for us.*)

## Materials

### A-Line

#13000 Lead Weights  
Style "A" Stirrup

0.040" x 0.040" Strip Styrene  
0.025" Styrene Rod

### Bowser (Cal-Scale)

AB Brake Set

### Kadee

#158 Scale Couplers  
Air Hoses  
33" Wheels

### Creative Model Associates

0.010" Phosphor Bronze Wire  
0.0125" Phosphor Bronze Wire

### Scalecoat II

Oxide Red  
Loco Black

### Detail Associates

lift rings (eyebolts)

### Tichy

18" Drop Grab Irons  
Westinghouse Air Brake Set  
Styrene Turnbuckles

### Evergreen

1" x 2" Strip Styrene  
1" x 3" Strip Styrene  
2" x 2" Strip Styrene  
0.020" x 0.020" Strip Styrene

### Your Choice

An old plastic car as a source of donor rivets

## Patch Panels

On one of Jim Mische's trips to the Archives he found a drawing for the patch panels added onto the M-26d and e subclasses. These are the Duryea underframe equipped sub classes. The patch panels added to the lower sides of the cars should be:

- 15 inches high
- made from 1/4" thick copper bearing steel (a corrosion resistant grade)
- appear to be made in one, two and three panel sizes. Larger panel patches are multiples
- riveted on the sides and bottom, welded along the top (no rivets to model there).



B&O 276933 at the Cleveland Roundhouse in 2006, Ed Kirstatter Photograph.



# Detail Photographs

By Edwin Kirstatter







Details of B&O 276933 at the Cleveland Roundhouse in 2006, Ed Kirstatter Photographs.

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